

Message

**From:** Crumlish, Karen [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=45E3E1D7C4534F10B2F31D660567E92C-KCRUMLIS]  
**Sent:** 7/15/2021 7:16:20 PM  
**To:** Arvanaghi, Heather [Arvanaghi.Heather@epa.gov]  
**CC:** Zirilli, Alysa [Zirilli.Alysa@epa.gov]  
**Subject:** RE: EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

Thank you so much, Heather. This was very helpful. I haven't heard more along this line but anticipate additional conversations on the sampling front in the coming week. Alysa or I will get back to you if more info is needed.  
Have a great evening!  
Karrie

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Karrie Crumlish, Chief  
Drinking Water and Source Water Protection Branch (3WD20)  
Water Division  
U.S. EPA Region 3  
1650 Arch Street | Philadelphia, PA 19103  
Phone: (215) 814-3398

**From:** Arvanaghi, Heather <Arvanaghi.Heather@epa.gov>  
**Sent:** Tuesday, July 13, 2021 10:22 AM  
**To:** Crumlish, Karen <Crumlish.Karen@epa.gov>  
**Cc:** Zirilli, Alysa <Zirilli.Alysa@epa.gov>  
**Subject:** RE: EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

Hi Karrie,

You're correct. We have grab sample meters, nothing that's constant. Here's a link to an overview of an instant corrosion monitoring (MPY) meter if you want background on it: <https://www.hmnorthcutt.com/wp-content/uploads/2019/06/InstantMPY2016-CM2012.pdf>

Of all the items we have, of course we don't have the one we need right now.

Let me know if you'd like me to look into obtaining one of these and/or costs. There's a new reverse auction purchasing process that is supposed to allow us to request items with very fast turnaround time. I haven't tried it out yet, but could be useful.

Thanks,  
Heather

Heather Arvanaghi  
(215) 814-5477

**From:** Crumlish, Karen <[Crumlish.Karen@epa.gov](mailto:Crumlish.Karen@epa.gov)>  
**Sent:** Tuesday, July 13, 2021 10:12 AM  
**To:** Arvanaghi, Heather <[Arvanaghi.Heather@epa.gov](mailto:Arvanaghi.Heather@epa.gov)>  
**Cc:** Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Subject:** FW: EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

I have a question for you – please see the highlighted portion of the email below. I'm not familiar with an instant mpy but based on context think it might be an instant read corrosivity monitor. Darren may have information about EPA's access to this type of equipment but I wanted to check with you too – any chance we have equipment at the COOP that might be helpful? I believe we have equipment that could test corrosivity, pH, WQP – grab samples, not constant flow meters.

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**From:** Hawranick, Mike <[Mike.Hawranick@wv.gov](mailto:Mike.Hawranick@wv.gov)>  
**Sent:** Monday, July 12, 2021 5:18 PM  
**To:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>; Vance, Meredith J <[Meredith.J.Vance@wv.gov](mailto:Meredith.J.Vance@wv.gov)>; Douglas, J D <[J.D.Douglas@wv.gov](mailto:J.D.Douglas@wv.gov)>; Myers, Seth J <[Seth.J.Myers@wv.gov](mailto:Seth.J.Myers@wv.gov)>; Cobb, Craig R <[Craig.R.Cobb@wv.gov](mailto:Craig.R.Cobb@wv.gov)>; Satterfield, Zane R <[Zane.R.Satterfield@wv.gov](mailto:Zane.R.Satterfield@wv.gov)>  
**Cc:** Crumlish, Karen <[Crumlish.Karen@epa.gov](mailto:Crumlish.Karen@epa.gov)>; Rogers, Rick <[rogers.rick@epa.gov](mailto:rogers.rick@epa.gov)>; Cochran, Michelle L <[Michelle.L.Cochran@wv.gov](mailto:Michelle.L.Cochran@wv.gov)>; Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Subject:** EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

Always good to bounce some ideas around, I have attached a Clarksburg Water Board (CWB) Monthly Operational Report. Feel free to contact Chief Water Operator Bobby Davis (304-624-5467 wtp land line) any time. Except for tomorrow, I am pretty much booked up, you are welcome to call me anytime on my cell..304-641-5564. Meredith can you set-up maybe?

7 MGD 24/7 WTP...CWB adjust pH & alk plugged into a daily LSI value to double-check corrosion control, see MOR page 3 of 3 last column.

Their 2010 Pb/Cu sample plan states all sites have LSLs. This being the case pH/Alk has historically worked here, and In

Clarksburg sells  $\frac{1}{3}$  of the water produced directly to their customers, the remaining  $\frac{2}{3}$  rds goes to their consecutives.

## Ex. 5 Deliberative Process (DP)

Question: Any experience with instant mpy? Basically side-stream shows corrosiveness in system.

# Ex. 5 Deliberative Process (DP)

All for now.

Mike Hawranick  
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**From:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>  
**Sent:** Sunday, July 11, 2021 11:25 PM  
**To:** Vance, Meredith J <[Meredith.J.Vance@wv.gov](mailto:Meredith.J.Vance@wv.gov)>; Hawranick, Mike <[Mike.Hawranick@wv.gov](mailto:Mike.Hawranick@wv.gov)>; Douglas, J D <[J.D.Douglas@wv.gov](mailto:J.D.Douglas@wv.gov)>; Myers, Seth J <[Seth.J.Myers@wv.gov](mailto:Seth.J.Myers@wv.gov)>  
**Cc:** Crumlish, Karen <[Crumlish.Karen@epa.gov](mailto:Crumlish.Karen@epa.gov)>; Rogers, Rick <[rogers.rick@epa.gov](mailto:rogers.rick@epa.gov)>; Cochran, Michelle L <[Michelle.L.Cochran@wv.gov](mailto:Michelle.L.Cochran@wv.gov)>; Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Subject:** [External] RE: [External] RE: [EXTERNAL] EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

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Hello Mike, Seth and J.D.,

I will be glad to help you and the community address corrosion issues. Let me know when you are free this week to discuss.

Darren

Darren A. Lytle, Ph.D., P.E.  
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CESER Water Infrastructure Division  
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**From:** Vance, Meredith J <[Meredith.J.Vance@wv.gov](mailto:Meredith.J.Vance@wv.gov)>  
**Sent:** Friday, July 9, 2021 10:02 AM  
**To:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>; Hawranick, Mike <[Mike.Hawranick@wv.gov](mailto:Mike.Hawranick@wv.gov)>; Douglas, J D <[J.D.Douglas@wv.gov](mailto:J.D.Douglas@wv.gov)>; Myers, Seth J <[Seth.J.Myers@wv.gov](mailto:Seth.J.Myers@wv.gov)>  
**Cc:** Crumlish, Karen <[Crumlish.Karen@epa.gov](mailto:Crumlish.Karen@epa.gov)>; Rogers, Rick <[rogers.rick@epa.gov](mailto:rogers.rick@epa.gov)>; Michelle Cochran <[michelle.L.Cochran@wv.gov](mailto:michelle.L.Cochran@wv.gov)>; Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Subject:** RE: [External] RE: [EXTERNAL] EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

Good Morning,

I am forwarding your email/contact information to our district engineers for the Clarksburg area. It would probably be best for you to work directly with Mike, Seth, and JD since they are more intimately involved in the water system and their treatment process. I would still like to be included and will listen in as available. Thank you for your willingness to assist. Clarksburg has expressed major concern over corrosion control treatment.

Look forward to working with you.

Thanks,  
Meredith

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**From:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>  
**Sent:** Thursday, July 8, 2021 2:04 PM  
**To:** Cochran, Michelle L <[Michelle.L.Cochran@wv.gov](mailto:Michelle.L.Cochran@wv.gov)>; Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Cc:** Vance, Meredith J <[Meredith.J.Vance@wv.gov](mailto:Meredith.J.Vance@wv.gov)>; Crumlish, Karen <[Crumlish.Karen@epa.gov](mailto:Crumlish.Karen@epa.gov)>; Rogers, Rick <[rogers.rick@epa.gov](mailto:rogers.rick@epa.gov)>  
**Subject:** [External] RE: [EXTERNAL] EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

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Hello Michelle and Meredith,

Let me know when you have time to discuss the situation. I can be available tomorrow morning.

Darren

Darren A. Lytle, Ph.D., P.E.  
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**From:** Cochran, Michelle L <[michelle.l.cochran@wv.gov](mailto:michelle.l.cochran@wv.gov)>  
**Sent:** Thursday, July 8, 2021 11:25 AM  
**To:** Zirilli, Alysa <[Zirilli.Alysa@epa.gov](mailto:Zirilli.Alysa@epa.gov)>  
**Cc:** Meredith Vance <[meredith.j.vance@wv.gov](mailto:meredith.j.vance@wv.gov)>; Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>; Crumlish, Karen

<Crumlish.Karen@epa.gov>; Rogers, Rick <rogers.rick@epa.gov>

**Subject:** Re: [EXTERNAL] EPA's Corrosion Control Expert: Assistance To WVDHHR & Clarksburg

Thank you, Alysa! I'm sure Darren and Meredith and the folks in Clarksburg are going to be working closely on this.

On Thu, Jul 8, 2021 at 11:20 AM Zirilli, Alysa <Zirilli.Alysa@epa.gov> wrote:

Meredith and Michelle, by this email I'm pleased to introduce you to Darren Lytle (copied here). Darren is with EPA's Office of Research & Development in Cincinnati and has impressive expertise in corrosion control. Darren has graciously agreed to work with you and Clarksburg to address their concerns about installing and operating corrosion control treatment. Darren, both Michelle and Meredith are with the West Virginia Dept. of Health and Human Resources, and have been working around the clock regarding the Clarksburg Water Board's lead situation.

I shall leave it to the three of you to coordinate assistance as needed, but please keep me in the loop.

Thank you all,

Alysa

Alysa Zirilli, P.G.

Acting Chief

Drinking Water Section

EPA Region III

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